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ABSTRACT

Focusing on the family as a context for the development of life plans by youth, this report summarizes findings of a 14-year longitudinal study on the educational and occupational life plans and achievement of youth in rural low-income areas in six southeastern states. Specific attention is given to (1) how parental educational and occupational status predicts the educational and occupational achievement of their children, (2) how parental values and child rearing practices differ according to family background or socioeconomic status, and (3) how parenting behaviors influence children's self-concept, mental ability, and academic and achievement motivation. The original study began in 1969, when a total of 1,202 fifth- and sixth-graders and their mothers were questioned about social origins, early socialization influences, and early socialized outcomes. In 1975, a total of 945 of the children were reinterviewed when they were high school juniors and seniors. In 1978, a group of 544 of the original sample were interviewed as young adults. Finally, in 1983, a small subsample was identified for detailed interviews. Findings indicate the extent to which the family makes significant contributions to the attainment of youths' educational and occupational goals. It is concluded that findings support the need for educators to involve the family in school learning activities, including science education. (RH)

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THE INFLUENCE OF FAMILY ON EDUCATIONAL AND OCCUPATIONAL ACHIEVEMENT OF ADOLESCENTS IN RURAL LOW-INCOME AREAS: AN ECOLOGICAL PERSPECTIVE

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ABSTRACT

The Influence of the Family on Educational and Occupational Achievement of Youth in Rural Low-Income Areas: An Ecological Perspective.

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This paper will summarize findings of a 14-year longitudinal study on the educational and occupational life plans and achievement of youth in rural low-income areas in six southeastern states. The study examined the significant ecological contexts of development related to the formation and attainment of educational and occupational life plans, including the family, the school, and the community. The focus on this report will be on the family as a context for youth life plans. In 1969, 1202 fifth and sixth graders (black/white, male/female) and their mothers were assessed on the following factors: social origins, early socialization influences, and early socialized outcomes. In 1975, 945 of the children were re-interviewed when they were high school juniors and seniors. In 1978, 544 of the original sample were interviewed as young adults; and, in 1983, a small subsample was identified for detailed interviews. Findings of the 1978 data indicated a striking disparity between boys' career aspiration and attainment as young adults. The more confidence a high school male had that he would achieve his desired occupation, the more likely he was to attain that occupation as a young adult. Of the grade school girls who aspired to a high level occupation, only 10% attained it. The higher the mother's educational level, the greater the congruence between the girl's occupational aspirations and her attainment.

In addition to the above findings, the longitudinal data from 1969 to 1979 were analyzed using a causal/path model technique to assess the effects of selected predictors on their educational and occupational attainment.

Based on previous research on youth status attainment, it was hypothesized that career development of youth would be significantly influenced by family background, the influence of significant others (familial and extrafamilial), selected characteristics of the youth (e.g., mental ability, self-concept, academic motivation), youth achievement motivation (e.g., educational and occupational aspirations and expectations) and educational attainment. The effects were analyzed with sex and race controlled.

While the findings supported the overall explanatory power of the path model, a direct effect of the selected independent variables on the career development of youth was observed only for youth achievement motivation and youth educational attainment. Indirect effects of the remaining variables (family background factors, child's characteristics, and significant other's influence), were mediated through achievement motivation and educational attainment. These indirect effects were, however, worth noting because their magnitudes were comparable to the direct effects of the intervening variables. For example, the total effect of either family background or child characteristics on occupational attainment exceeded the total effect of youth educational attainment. The total effect of family influence on the occupational attainment process of youth (family background and the influence of significant others, in the family) exceeded that of both youth characteristics and educational attainment. The total effect of the family was second only to that of achievement motivation in predicting occupational attainment. The influence of the family on youth educational attainment was also found to be significant. The strongest direct predictor for educational attainment was achievement motivation in the post-high school years, followed by child characteristics, family background, and parent (significant other) influences, in that order. However, when the total effects were calculated -- both direct

and indirect -- family background was found to have the strongest influence on youth educational attainment. (Total effect is $\beta = .36$, as compared to $\beta = .33$ for achievement motivation.) The influence of the family on educational attainment of youth became even greater when the effect of family background factor was combined with that of parental influence. The total effect of the family was $\beta = .53$, as compared to $\beta = .33$ for achievement motivation, and $\beta = .28$ for child characteristics. This finding also indicated the importance of the familial influence on youth's achievement process.

Thirty-eight percent of the variability in occupational attainment was accounted for by youth achievement motivation and educational attainment. Thirty-five percent of the variability in educational attainment was explained by family background, child characteristics, parental influence and achievement motivation.

In conclusion, it was found that the family makes significant contributions to the attainment of youth educational and occupation goals. By, using a path model analysis, it is possible to fully appreciate the total influence or effects (direct and indirect) of the family on these important outcomes. The findings of this study support the need for educators to involve the family in school learning activities, including science education.

TITLE: THE INFLUENCE OF THE FAMILY ON EDUCATIONAL AND OCCUPATIONAL ACHIEVEMENT.[1]

INTRODUCTION

The influence of the family on the educational and occupational achievement of the youth has attracted much attention by researchers for many years. The central concerns of these researchers have been with the following questions. How do parental educational and occupational status predict the educational and occupational achievement of their children? How do parental values and child-rearing practices differ according to family background or socioeconomic status? How do parenting behaviors (or the child's perception of parenting behaviors) influence child self-concept, mental ability, and academic and achievement motivation which, in turn, are believed to be related to children's educational and occupational achievement? The present study was designed to examine these questions with specific attention to the family influence on child educational and occupational attainment, and to compare the magnitude of such familial influence to the contribution of other variables in the youth's environment.

An Ecological Approach

An ecological approach to the study of any living thing has three major components: the organism, the environment, and the interactions between these two components. Bronfenbrenner (1979) specified the organism as the individual and defined the layers of the environment which surround the individual as the micro-, meso-, exo-, and macro-systems. These environments have

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[1]The research for this paper was made possible through an ongoing research grant from the Michigan State University Agricultural Experiment Station, Dr. Robert G. Gast, Director. These funds made possible the participation of L. Schlamberg (principal investigator) and C. Chin (graduate research assistant) in the S-171, Southern Regional Research Project. (Dynamics of Life Plans and Attainment of Rural Low-Income Youth: A Longitudinal Analysis.)

biological, sociological, psychological, physical and economic characteristics which influence the development of the individual.

This study examined the effects of these layers of the environment of low-income, southern rural youth on their educational and occupational achievement. More specifically, this study assessed the influence of the person (i.e., child characteristics such as mental ability, self-concept, and academic and achievement motivation, the microsystem environment (i.e., family background factors, parenting values and practices), the mesosystem (i.e., peer-, teacher-, school and other community interactions), the exosystem environment (i.e., the effect of schooling) and the macrosystem of societal limitations/beliefs imposed on youth educational and occupational achievement.

Ecological Contexts and Variables.

Given the ecological focus of this research, the specific variables analyzed against occupational outcomes reflected several critical contexts of development (including the family and the educational environment) as these interacted with individual characteristics (e.g. achievement motivation, educational attainment). The specific variables which were used to predict occupational attainment included the following:

X_1:family background

X_2:child's characteristics

X_3:Significant other's Influence - familial

X_4:Significant other's Influence - extra-familial

X_5:Achievement motivation - Youth's educational & occupational aspirations

X_6:Educational attainment (post-adolescent period)

(See Table 1 for detailed description of variables.)

REVIEW OF THE LITERATURE

The scientific literature about occupational choice is indeed massive: existing literature is spread across a variety of academic disciplines (e.g., psychology, sociology, and economics) and theoretical perspectives. Some researchers in the area have attempted to elaborate trait-factor theory (Bell, 1940), developmental frameworks (Ginzberg, Ginsburg, Axelrad and Herma, 1951; Super, 1953, 1957), structural models (Blau and Duncan, 1967), personality models (Holland, 1966, 1973), and socio-psychological models (Sewell, Haller, and Portes, 1969; Sewell and Hauser, 1972). Others have focused on race, sex and residence variables (Alexander and Eckland, 1974, Hall, 1979; Portes and Wilson, 1976; Trieman and Terrel, 1979); and have made various comparisons of rural and urban populations (Cosby and Charner, 1978; Kenkel, 1981).

The focus of the review is the empirical modeling efforts with a dynamic view of career development as an ongoing process that explicitly incorporates changes over time. Thus, the theoretical perspectives to be reviewed here are Super's developmental perspective (Super, 1953, 1957) and Status-attainment research in the field of sociology (Blau & Duncan, 1967).

Super's Theory

In vocational psychology, the concept of occupational choice connotes a static orientation associated with trait-factor theory. Until about mid century, a fairly simple philosophy dominated vocational psychology. The fundamental idea in the wise choice of a vocation are three factors: a clear understanding of yourself, a knowledge of the requirement and conditions in different lines of work, and true reasoning on relations of these two groups of facts (Parsons, 1967). Beginning with Ginzberg (1951) and Super (1953, 1957), the concept of career development was introduced into vocational psychology and the emphasis in this literature shifted from a static

conception of matching people with jobs (Bell, 1940) to the study of an ongoing process. Ginsberg's theory focuses on the total developmental process through three stages of occupational development, from early adolescent to the early adult years: a fantasy stage, a tentative stage and a realistic stage. The underlying notion is that as the individual progresses through the three stages of occupational development, the final stage is reached by the process of compromise, in which reality factors are weighed against available alternatives (Ginsburg, 1951). Three important ideas stand out in Super's (1953) theory. First is the notion that occupational and related choices occur gradually in a complicated process that occurs over an extended time (i.e., life-span process). Second is that self-concept plays an important role in occupational choice. According to Super (1953, 1957), occupational choice is the process of "implementing" once's self-concept. Third, Super emphasizes the concept of vocational maturity. In broad terms, vocational maturity includes vocational satisfaction and success (Hotchkiss et al., 1979). Super's work provides a valuable perspective from which to view occupational choice.

Status-Attainment Theory

Status-attainment research originated with the study of social mobility in sociology. Typical mobility research depends on broad classifications of occupation into status levels. Cross status-attainment research depends on two innovations, according to Hotchkiss and his associates (1979). First, detailed procedures have been developed to assign a number measuring occupational status to each occupation. Occupational status scales have facilitated the second important innovation -- use of path analysis. Path analysis is a statistical methodology (based on regression analysis) designed to study

cause-and-effect relations in the absence of experiments (Nie, Hull, Jenkins, Steinbrenner and Bent, 1975).

Current status-attainment research applies path analysis to uncover the reasons why the statuses of father's and son's occupation are related (e.g., Blau and Duncan, 1967). Findings suggest that parental attitudes and perceptions of peers comprise an important part of the explanation. Parents at different occupational levels hold different expectations for their children. Parental expectations tend to be adopted by children, and children's expectations affect the occupation they eventually choose. Educational achievement is a critical step in this process: much of the relationship between parental occupational status and the occupational status of their children is due to the educational level achieved by the children (Blau and Duncan, 1967; Sewell et al., 1969; Bachman, O'Malley and Johnston, 1978). A large quantity of research tends to support these conclusions. Much of the research is based on national samples or comparably good quality state and local samples. Analysis generally does incorporate relatively sophisticated multivariate methods.

On the other hand, the theoretical and conceptual aspects of status-attainment work are too simplified to render a realistic picture of the process of selecting an occupation (Hotchkiss et al., 1979; Schulenberg, Vondracek, and Crouter, 1984). First, the gradual process of narrowing down one's occupational options described by Super and other vocational psychologists is not accommodated by status-attainment work. Secondly, most of the mathematical statements of status-attainment theory do not accommodate the probable reality that several of the variables exercise two-directional effects (e.g., parents affect children and, in turn, children affect parents). Finally, the mathematical statements of status attainment theory are static -- they do not account for change over time.

Among theories that view career development as an ongoing process (such as Super's theory, Holland's theory, and Status-Attainment theory), status-attainment theory has been selected for further review because it contains a massive amount of empirical work and combines the traditional sociological viewpoint -- that factors such as social class influence occupational choice -- with a social psychological view -- that interpersonal relationships strongly influence occupational decision. Additionally, the theory is relatively easy to operationalize and is expressed in the precise language of path analysis. Furthermore, the status attainment model has been extended through Blau and Duncan's model (1967) and Wisconsin Status Attainment Model.

Blau and Duncan Model

In contrast to the Ginzberg et al. (1951) and Super (1953) models which emphasized social-psychological factors as major components, Blau and Duncan's (1967) model went to the other extreme, focusing on structural variables to the exclusion of social-psychological factors. Their empirical efforts using path analysis have resulted in a major progress in the identification of variables influencing the choice process and model building based on prediction.

Following the basic assumptions of path analysis, the causal ordering of the variables in Blau and Duncan's model began with father's education and occupation first, followed by respondent's education and finally respondent's first job, which is the dependent variable in their model. Later, respondent's current job status is added to the existing model.

Blau and Duncan used a national sample of 25,000 men (20,700 respondents) representative of 45 million men, 20 to 64 years old, in the civilian, non-institutional population of the United States, in March of 1962. Their primary purpose was to present a systematic analysis of the American occupational structure, examining social stratification and mobility.

The structural variables they used accounted for 40 percent of the variance in occupational attainment. The importance of their model remains in their effort at establishing causal relationships between the independent variables and the dependent variable, which added more information in understanding the occupational choice process than previous studies had contributed. (For example, they found that the relationship between 1962 occupational status and the first job the respondent has was significant ($r = .541$, path coefficient = .281). The difference between the two coefficients stems from the indirect effects of the two variables of 1962 occupational status and other causal variables in the model.)

Wisconsin Status Attainment Model

Research efforts that have employed path analysis began by strengthening the Blau and Duncan model. The omission of social-psychological factors is criticized and stronger theoretical underpinning were suggested in order to explain the relationships between variables.

Sewell, Haller and Portes (1969) argued that the inclusion of social-psychological factors was important, on the basis of prior research found in the literature (e.g., Super's (1957) work on self concept), and the logical relation between structural connections and social-psychological development. According to them, the individual's psychological makeup is developed in structured situations: an individual's actions are the results of cognitive and motivational orientations developed in fixed (structural) settings, as well as reactions to present situation. Their work is known as "the Wisconsin Status Attainment Model."

Besides focusing on occupational attainment, the Wisconsin model was also concerned with educational attainment. It was assumed that both social-psychological and structural factors influenced not only sets of significant

others effects on youth, but the individual's own assessment of his own ability as well. It is further assumed that the influence of significant others and the estimates that the individual has of his ability subsequently affect education and occupational aspirations. In addition, levels of aspiration influence levels of educational attainment, which in turn affect levels of occupational attainment.

Using 929 subjects whose fathers were farmers, Sewell and his associates collected data from 1957 to 1964, and found that social-psychological variables did not increase the overall variability in occupational attainment (R^2 = .34). For educational attainment, however, 50 percent of the variance was accounted for by the following independent variables: level of occupational aspiration, level of educational aspiration, significant others' influence, academic performance, socio-economic status, and mental ability (I.Q.).

In discussing these results, Sewell et al. (1969) argued that the introduction of socio-psychological factors added a great deal in the explanation of educational attainment. Hall (1979) pointed out that Blau and Duncan (1967) attempted to explain occupational attainment as it was mediated through educational attainment, while Sewell and his associates (1969) attempted to explain educational attainment and subsequently occupational attainment as it was related to education.

Another point of divergence between the two models is the difference in the variables and samples used. As a result, comparing the contribution of one study to another is difficult. There have been numerous successful replications and extensions of status-attainment research.

Current Findings of the S-171 Project.

In addition to the above theories and models which point to the use of path modeling as one way to understand the complex contributions of numerous

ecological variables to occupational outcomes, the findings of the S-171 research project (Dynamics of Life Plans and Attainment of Rural Low-Income Youth: A Longitudinal Analysis) also suggest such an ecological complexity with a particularly important role for the Family. The aim of the study (being conducted by researchers from North Carolina State University, the University of North Carolina, the University of Tennessee, the University of Kentucky, Alcorn State University (MS), Virginia Polytechnic Institute, and Alabama Agricultural and Mechanical University and Michigan State University) is to identify life experiences of rural, low-income individuals that contribute to their educational and occupational attainment. When comparing career aspirations and expectations at various age levels to attainment, one finding has been that relatively few of the young men fulfilled their career expectations. In 1969, half of the black fifth and sixth grade boys in the study-and half of them as high school upperclassmen-aspired to professional and technical careers. When interviewed in 1979, only 7 percent of the young men were actually working at such jobs. Fewer white males aspired to and expected to attain such high-level jobs, but more actually attained these, as well as mid-level jobs below the professional level. The personal trait that seemed to be most closely related to career attainment was self-confidence.

Of the girls, 70 percent of the whites and 75 percent of the blacks aspired to professional or technical careers when they were in grade school. The percentage dropped only slightly by the high school years. As young adults, however, only 10 percent of these women achieved their goals. The mother's educational level seemed to be the best predictor of the women's success in attaining the jobs to which they had aspired. The more education the mother had, the greater the agreement between grade school and high school career expectations and attainment.

The family, not the child's ability, seemed to be one of the primary influences on whether the young people achieved their career goals. Parental attitudes were the most significant factor in the young people's satisfaction with life at the time they began taking on adult responsibilities. The family also was significant in where the young people chose to live. Among white high school students in 1979, 69 percent wanted to remain in their home communities. Among blacks, 65 percent wanted to move away. For both blacks and whites, those who wanted to remain were more likely to attain their wishes. Most of those who wanted to leave did not.

METHODS

Data

The data used are from the longitudinal data collected over a period of ten years (still ongoing), conducted under the title of the Regional Project S-63, S-126, and S-171. The study was sponsored by the United States Department of Agricultural Cooperative State Research Service in six Southern states.[1] The original study was designed to assess influence on occupational goals of young people in the three Southern subcultures. The original study was longitudinal in design involving three phases of assessment: 1969, 1975, and 1979. The unit of analysis was 536 individuals (out of 1412 mother-child pairs) who were followed up over time and from whom completed questionnaires were available for all three assessment periods (238 males, 298 females; 190 blacks, and 346 whites).

Variables.

The variables under consideration appear in Table 1.

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[1]Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia.

TABLE 1: VARIABLES

X_1: Family background factor (FBK): A composite score of
the breadwinner's occupation
the educational levels of both mother and father
mother's social "participation" scores

X_2: Child's Characteristics: A composite score of
IQ (mental ability)
SEL (self-concept)
AC (academic motivation)

X_3: Significant Other's Influence: A composite of
1)ACV (Mother's achievement orientation)
2)CHA (character) > Two factors of mother's child-rearing value orientation
OUT (outgoing)
3)MED (mother's educational status projections for her child)
MOC (mother's occupational status projections for her child)
4)LV (loving)
DM (demanding) > Child's perception of parenting practices
PU (punishing)
5)PAR (Parental influence on youth's future plans)
SIB (Siblings influence on youth's future plans)

X_4: Significant Other's Influence:
OU (extra-familial people's influence on youth's future plans)

X_5: Achievement Motivation as in educational and occupational
aspirations and expectations of the youth:
1)Occupational aspirations in preadolescent years (1969)
Occupational aspirations in preadolescent years (1969)
Educational aspirations in preadolescent years (1969)
Educational expectations in preadolescent years (1969)
2)Occupational aspirations in adolescent years (1975)
Occupational expectations in adolescent years (1975)
Educational aspirations in adolescent years (1975)
Educational expectations in adolescent years (1975)
3)Occupational aspirations in post-adolescent years (1979)
Occupational expectations in post-adolescent years (1979)
Educational aspirations in post-adolescent years (1979)
Educational expectations in post-adolescent years (1979)

One variable from each period is used in the analysis. That is,
Ed. Exp. of 1969, Ed. Exp. of 1975, Occ. Exp. of 1979.

X_6: Educational attainment of 1979

X_7: Occupational attainment of 1979

Proposed Path Model and Hypotheses.

The proposed relationships between the above variables is described in the hypothetical path model in Figure 1.

The hypotheses formulated to examine the overall effect of the path model proposed in Figure 1 can be stated as follows:

For occupational attainment of the youth, it is stated as

HI_1 Among low-income, southern, rural youth, the levels of influence of the selected independent variables (i.e., family background factors, child's characteristics, and significant other's influence) and intervening variables (i.e., achievement motivation and educational attainment) are positively related to the level of occupational attainment.

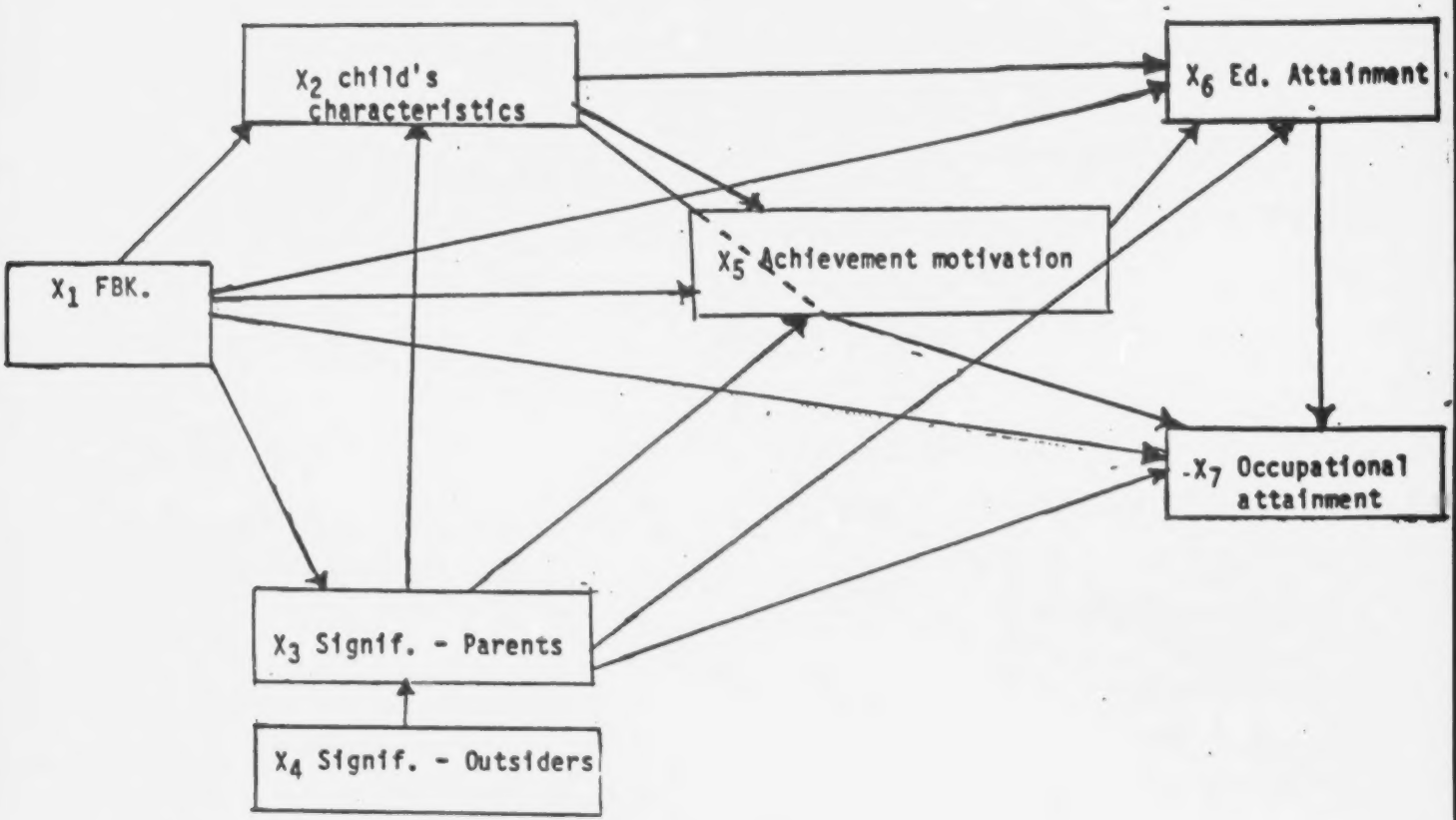
For educational attainment of the youth, it is stated as

HI_2 Among low-income, southern, rural youth, the levels of influence of the selected independent variables (i.e. family background factors, child's characteristics, and significant other's influence) and an intervening variable (i.e., achievement motivation) are positively related to the level of educational attainment.

Operational Definitions of the Variables.

The primary dependent variable in the present study is the occupational attainment reported by the youths in 1979. Respondents were asked the following question: "Now, what have been your job experience? Please give the name of the job or type of work you had during each of the following years." The responses were then coded using NORC (National Opinion Research Center) Classification structure developed by North and Hatt (Reiss, 1961). The NORC classification scheme was derived as a prestige continuum of occupations. Ten major categories of occupations were listed with job choices being

Fig. 1. Path Diagram of Conceptual Model (with likely directions of association indicated)[1]



[1]Note that the statistical assumptions of path modeling allow only for unidirectional relationships.

representative of each category. Status scores, using the NORC scale, ranged from 83-21 in this study. (Refer to Appendix A for examples of NORC scores for scientists.)

The six categories of independent variables (refer to Table 1) are defined in order:

(1) Family background factor: It is a composite socioeconomic status score based on the breadwinner's occupation (if not father, mother), the level of schooling of both mother and father, and a six-item measure of social participation (e.g., voter registration and voting behavior, church attendance, memberships in organizations, frequency of watching T.V. (news), and reading the newspaper). Education is coded into years of schooling, occupation to NORC score, Mother's social participation and complied as one score.

(2) Significant Others' Influence of the Family: is an indicator of whom the youth has talked to regarding future plans. Essentially, this category reflects the influence of family members. Respondents checked on the questionnaire whom they talked with about future plans and indicated one person whose advice is more important to them to their future plans.

Included also in this category are parenting practices, which are measured in four areas: (a) Mother's status projections for their children, (b) Mother's achievement orientations, (c) Child-rearing values, and (d) Maternal child-rearing practices. The above variables are defined in order.

(a) Mother's status projections for their children: Maternal educational expectations for the respondent were obtained in 1969 via (when the children were fifth and sixth graders) "How far do you think (name) really will go in school?" and coded into one of seven categories. Maternal occupational expectations for the child were similarly asked, "What kind of job do you think (name) really will have when he grows up?" It is coded into NORC scores.

(b) Mother's Achievement Orientations: were assessed with Rosen's six "achievement value" orientation scale.

(c) Child-rearing values: were measured by Kohn's sixteen-item factor scale designed to determine the personality characteristics of the child that the mother values most highly. This is known as Kohn's Parental Value Scale. Each mother was asked to select the three characteristics which were most important for a child her child's age. Factor scores were assigned to each mother's set of responses. A positive scale score indicates a preference for "self-direction" while a negative score suggests a desired orientation of "behavior conformity" in children her child's age.

(d) Maternal child-rearing practices: were measured as factor scores on three multiple-item scales: Loving, Punishing, and Demanding, from Bronfenbrenner's parental behavioral questionnaire. The child is asked about maternal child-rearing practices in terms of how he/she perceives his/her mother interacting with him/her in a variety of childrearing situations.

(3) Child's Characteristics: Included in this category are the following variables.

(a) Mental ability (IQ): was assessed in 1969 by the child's score on the Otis-Lennon mental ability test, a group-administered mental ability measurement. Otis and Lennon (1969) reported validity coefficients between the range of .60 - .80 by testing it against other mental ability measures.

(b) Self-Concept: was assessed by the youth's response to a scale developed by Lipsit (1958). The scale was used in 1969 and consisted of 22 descriptive words which the children checked according to how well they believed it described the way they felt about themselves.

(c) Academic Motivation: It was assessed by six items Elder's (1962) scale, and four items from Weiner's Achievement motivation scale.

The Elder's scale included such items as "I am interested in my school work," "I really try to get good grades." It consisted of six items and the respondent's choice of answer was a five-response schema ranging from always to never. The Weiner's scale consisted of four items including such items as "When I am sick, I would rather be." The respondent's choice of answer was a two-response categories that represent either low or high motivation of the youth.

(4) Significant Others' Influence (Extra familial): is an indicator of whom the youth has talked to regarding future plans. If respondents checked on the questionnaire persons other than his/her family members, such as teachers, friends, neighbors, relatives, priests, etc., as persons whom they talked with about future plans, it constituted a response appropriate for this category.

(5) Achievement Motivation: was measured by the following two variables.

(a) Educational aspirations and expectations: were asked in 1969, 1975, and 1979. In 1969, youth were asked "If you had your choice, how far would you like to go in school?" and "How far do you think you really will go in school?" to measure aspirations and expectations, respectively. In 1975, "Looking into the future, which of the following statements best describe how much additional education and training you would really like to have?" and " ... how much additional education and training you think you really will get?"

The respondent checked 1 of 8 choices ranging from trade or vocational/ technical school to desiring no further education. In each year, the responses were summed and a mean score was used as the overall measure for educational aspirations and expectations.

(b) Occupational Aspirations and Expectations: were operationalized parallel to the level of educational aspirations variable. The actual item is "If you could choose any job you wanted, what kind of job would you really like to have in the future?" and "what kind of job do you think you really will have in the future?"

Both occupational "aspirations" and "expectations" components are in NORC scores.

(6) Educational Attainment: was assessed as of 1979. Respondents were asked in 1979, "How far have you gone in school?" Respondents were to check one of the ten response categories.

Analysis of Data.

Since the sample is drawn by a purposive stratified design, the use of path analysis and significance tests based on assumptions of simple random sampling could be questioned. However, Proctor (1974), the project statistician, explains that the purposive sampling method was justified considering the objective for the original wave of data collection which was to compare the goals of low-income youth from three subcultures in the South, since "a stratified sample design usually leads to greater internal diversity than a simple random sample (p. 61)."

In order to ascertain the ability of the model to account for overall variability in the dependent measure, multiple regression techniques were used. Path modeling was used to determine the relative importance of the independent variables over time. The path model examined in this study included one exogenous variable[1] (i.e., family background factor). The

[1]An exogenous variable is a variable whose variability is assumed to be determined by cause outside the causal model (Nie, et al., 1975).

effect of the exogenous variable as antecedent is figured into each regression equation for the direct effect on the variables which appear later in the model.

The following stages represent the overall data analysis strategy:

Stage 1: Descriptive Statistics which describes the characteristics of the sample and the way the sample responded on the major variables.

Stage 2: intercorrelations of all the independent and dependent variables. Descriptive linear analysis is inadequate for explaining the influence of ecological factors over time. Therefore, in order to better understand complex phenomena such as predictive factors of career development process, it was necessary to use multivariate models rather than the linear, bivariate models that are most commonly used.

Stage 3: The third step in data analysis was a multiple regression analysis. This kind of analysis is more appropriate in situations where more than one independent variable influences dependent variables. It will provide a hierarchical order of information about the variables which have the most influence in predicting successful career attainment.

Stage 4: Depending on strength of any relationships found, a path analysis model[1] was used. This was an initial step toward causal modeling. The path analysis itself does not tell the causal order of the variables. The researcher does that. The special strength of the path model was in the graphic portrayal of the results. Throughout the analyses, race and sex were controlled to see the true effects of selected predictors on educational and occupational achievements.

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[1]The validity of the path analysis was predicated on a set of very restrictive assumptions, some of which are that: (1) the variables are measured without error; (2) the residuals are not intercorrelated; and (3) the causal flow is unidirectional (i.e., the causal relationship is closed).

FINDINGS AND DISCUSSION

The influence of the family on occupational achievement.

Table 2 shows the zero-order correlations, means and standard deviations for all the variables in this study. Tables 3 and 4 show the overall relations of the path variables. Fig. 2 shows the causal framework on a temporal dimension with path coefficients reflecting the magnitude of the effects of predictors on occupational attainment. A decomposition of effects -- both direct and indirect -- is provided in Table 5. Hypothesis I_1 is supported, based on the findings reported in Tables 3, 4 and 5, and Figure 2.

The discussion here will be focused on the decomposition of effects of systems in youth's environment over time, from their preadolescent to the adolescent and postadolescent years. As shown in Table 3 and Fig. 2, none of the independent variables of the study show any significant direct associations with occupational attainment, except educational attainment and achievement motivation. This means that any influence exerted by the family background factors, parenting behaviors, and child characteristics are mediated through these two intervening variables. In addition, it should be noted that sex was found to have a significant effect on occupational attainment of youth, while race was not. This means that the level of girls' occupational attainment was found to be lower than that of boys, when the level of all other variables was held constant. The following is a summary of the effects of each predictor on youth occupational attainment.

1. The Effect of Education.

There is considerable evidence from prior research that the level of educational attainment is the best single predictor of youth occupational achievement (Blau and Duncan 1967; Otto and Haller, 1979; Sewell and Hauser 1980; Borus, 1983). While the present study does indeed find that educational

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Table 2. Zero-Order Correlations, Means & Standard Deviations of Variables.

Variable Name and Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1. FSX		.353	.078	-.038	.437	.078	.139	.365	.239	-.023	-.055	-.034	-.016	.045	-.019	.126	.091	.191	.290	.179	.197	.218	.312	.360	.264	.169	.270	.316	.211
2. IQ			.018	-.024	.165	.105	.140	.189	.137	.117	-.103	-.213	-.012	.036	-.011	.100	.055	.139	.173	258	.185	.107	.149	.236	.157	.011	.054	.168	.161
3. ESL				.457	.117	-.049	-.005	.098	.036	.392	.247	-.179	.035	-.069	.012	.071	.073	.185	.233	.062	.080	.164	.124	.072	.087	.099	.081	.107	.091
4. AC					.027	-.066	-.049	.181	.082	.423	.353	.024	.038	-.088	.016	.169	.195	.226	.266	.136	.197	.191	.122	.110	.103	.141	.072	.141	.067
5. ACV						.082	.116	.301	.253	.107	.115	.070	-.013	.013	.007	.168	.126	.178	.240	-.136	.145	.207	.215	.159	.149	.019	.107	.214	.152
6. CSR							-.499	.071	.005	-.063	-.097	-.016	.007	.004	-.012	.026	-.010	-.022	.055	-.009	.046	-.060	.032	.071	.040	-.081	-.023	-.024	.005
7. CMF								.038	.087	.074	.042	.018	-.026	.031	.009	.096	.067	.089	.048	.099	.018	.096	.019	.051	.012	.081	.066	.062	.019
8. EMB									.336	.021	-.008	-.005	-.035	.037	.015	.145	.152	.270	.400	.151	.240	.242	.355	.199	.176	.209	.189	.277	.056
9. EOC										.067	.045	-.003	-.026	.019	.018	.279	.273	.193	.213	.168	.138	.216	.229	.145	.235	.126	.136	.206	.086
10. IAF											.534	-.017	.136	-.080	-.107	.089	.122	.097	.158	.074	.110	.059	.009	.105	.052	.023	-.035	.003	.003
11. IMA												.300	.037	-.082	-.011	.067	.123	.023	.132	-.024	.072	.052	.011	.041	.053	.003	-.015	.016	-.042
12. PSY													-.023	-.051	.043	-.052	.034	-.022	-.003	-.112	-.034	-.008	-.035	-.091	-.073	-.105	-.101	.002	-.159
13. PSR														-.546	-.811	-.040	-.041	-.084	-.042	-.023	.009	-.046	.004	-.009	-.074	.004	-.049	-.012	-.037
14. SOB															-.045	.049	.059	.000	.009	-.019	.021	.028	.094	.078	.0121	-.001	.045	.086	.082
15. OCC. ASP. 68																.013	.031	.099	.043	.044	-.026	.036	-.074	-.053	-.014	-.004	.025	-.045	-.015
16. OCC. EXP. 68																	.602	.237	.180	.203	.225	.195	.171	.149	.210	.094	.129	.188	.099
17. ED. ASP. 68																		.238	.246	.185	.263	.137	.122	.193	.189	.138	.118	.134	.110
18. ED. EXP. 68																			.607	.231	.184	.299	.277	.164	.177	.196	.172	.168	.139
19. OCC. ASP. 75																				.170	.249	.219	.276	.248	.261	.221	.246	.185	.120
20. OCC. EXP. 75																					.303	.364	.374	.343	.387	.269	.278	.366	.369
21. ED. ASP. 75																						.350	.413	.238	.390	.249	.313	.382	.313
22. ED. EXP. 75																							.641	.386	.329	.368	.367	.482	.141
23. OCC. A.																								.355	.407	.336	.427	.629	.234
24. OCC. B.																									.591	.345	.318	.317	.363
																										.441	.504	.479	.586
																											.669	.362	.223
																												.424	.209
																													.299
Means	133.0	91.86	66.87	31.14	27.09	1.17	.94	5.63	70.79	66.67	51.27	30.91	.91	.03	.06	70.35	67.70	5.93	5.63	69.56	64.13	5.58	4.63	69.36	63.60	4.28	3.17	4.18	52.9
SD	23.1	13.5	8.9	4.9	4.4	.77	.7	1.12	7.64	7.8	7.8	10.2	.2	.1	.2	10.4	10.8	1.5	1.6	9.8	10.3	1.6	1.9	10.2	13.7	2.6	2.4	1.6	13.

Table 3. Direct Effects of the Selected Independent Variables on Occupational Attainment.

Independent Variables	Direct Effect Occupational Attainment R^2	R^2 Change	Unstandardized Beta	Standardized Beta
Race	--	.000	.69 (NS)	.02 (NS)
Sex	.034	.034	4.94*	.19*
Family Background	.037	.003	.03 (NS)	.06 (NS)
Child's Characteristics	.037	.000	-.03 (NS)	-.04 (NS)
Significant Other's Influence				
Inside the Family	.040	.003	.02 (NS)	.04 (NS)
Outside the Family	.041	.001	4.32 (NS)	.07 (NS)
Achievement Motivation (Occupational)	.381	.34	.55*	.53* (.53)[a]
Educational Attainment	.385	.004	.64*	.07* (.09)[a]

Overall F (8.269) = 21.00* R^2 = .38 (Adjusted R^2 = .37)

* $\alpha < .05$

NS - not significant.

[a]The path coefficients in parentheses indicate the path coefficients after removing the non-significant variables from the regression equation. These values are reflected in the path diagram in Fig. 2. The overall F (3,273) = 41.65 for the final regression equation R^2 = .38 (Adjusted R^2 = .37)

Table 4. Indirect Effects of Selected Independent Variables on Occupational Attainment[b]

		Indirect Effect Through					
		Achievement Motivation			Educational Attainment		
	R^2	R^2 Change	Unstandardized Beta	Standardized Beta	R^2	R^2 Change	Unstandardized Beta	Standardized Beta
Race	.039	.039	-6.64*	-.23*	.015	.015	-.68*	-.19*
Sex	.045	.006	1.02 (NS)	.04 (NS)	.018	.003	.05 (NS)	.02 (NS)
Family Background	.108	.063	.12*	.21* (.21)[a]	.058	.040	.01*	.17* (.17
Child's Characteristics	.126	.018	.10*	.15* (.16)[a]	.096	.038	.02*	.22* (.23
Significant Other's Influence								
Inside Family	.126	.000	.005 (NS)	.00 (NS)	.130	.034	.005*	.09* (.10
Outside Family	.126	.000	-.73 (NS)	.00 (NS)	.137	.007	-.5 (NS)	.07 (NS)
Achievement Motivation (Occupational)					.348	.211	.04*	.33* (.33
	Overall F (6,271) = 6.58* R^2 = .13(.10)				Overall F (7,270) = 20.62* R^2 = .35(.33)			

* $\alpha < .05$

NS - not significant

[a]Again, as in Table 3, the path coefficients in parentheses reflect the values of path coefficients after removing the non-significant variables from each of the regression equations. The overall F (3,274) = 13.09*, R^2 = .13 (adjusted R^2 = .12) for achievement motivation; F(5,272) = 28.41*, R^2 = .34 (adjusted R^2 = .33) for educational attainment

[b]The results from the remaining regression equations are reported in the Appendix B, Table 1.

Table 5. Decomposition of Effects of Significant Predictors of Occupational Attainment for Low-Income, Southern Rural Youth[1]

Dependent Variables	Path Coefficients[2] (Direct)	Indirect Effect	Total
Ed. Attainment	.09	--	.09
Achievement Motivation ('79 occupational expectations)	.53	.03 (through Ed. Attainment)	.56
Significant Other's Influence			
Parents	--	.009 (through Ed. Attainment)	.04
		.03 (through Child's Characteristics)	
Outsiders	N.S.	N.S.	N.S.
Child Characteristics	--	.02 (through Ed. Attainment)	.11
		.09 (through Achievement Motivation)	
Family Background	--	.02 (through Ed. Attainment)	.18
		.12 (through Achievement Motivation)	
		.01 (through Sig. Other's Influence)	
		.03 (through Child's Characteristics)	

[1]Race and Sex are controlled for all path equations

[2]Refer to Tables 3 and 4, and Figure 2 for path coefficients and their significance levels. All path coefficients diagrammed in Figure 2 are significant at $\alpha < .05$.

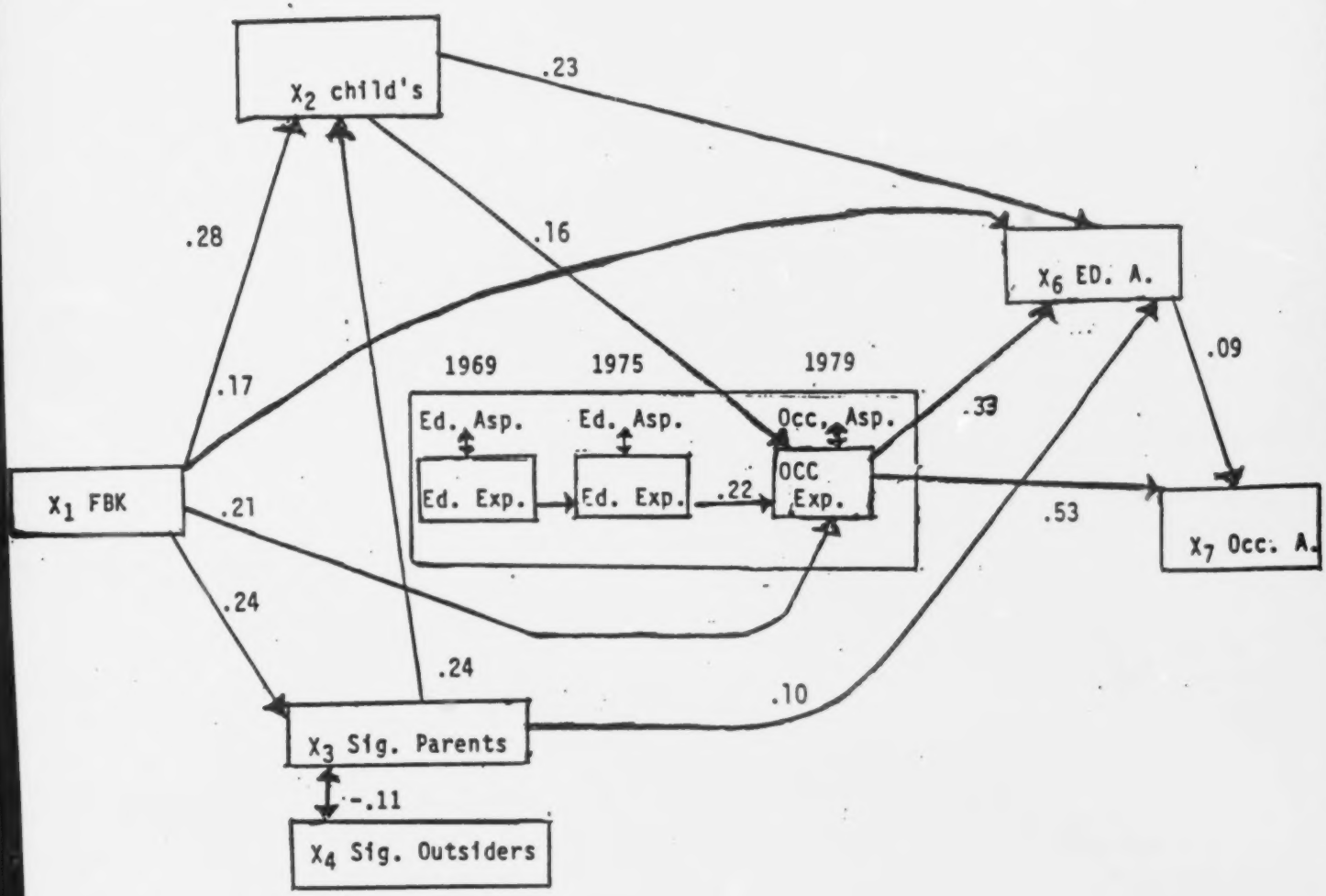

Fig. 2. The Causal Path Model of Adolescent Career Development (all ... are significant at $\alpha < .05$ level)

attainment is one of several significant predictors of occupational attainment, the best predictor, however, is the youth's post-adolescent occupational expectation β = .53, compared to β = .09 for educational attainment). In interpreting this finding it is important to note that in 1979 when the sample was asked about their educational attainment and their occupational aspirations/expectations they in many cases, been out of school for several years. This additional time would likely have helped them refine their occupational aspirations/expectations in line with the reality of their occupational world.

2. The Effect of Achievement Motivation (as measured by occupational and educational aspirations and expectations).

As indicated, youth post-high school occupational expectation (r = .6 with occupational aspiration) was found to be the strongest predictor of occupational attainment. (Total effect is β = .56 as compared to β = .09 for educational attainment). Haller et al. (1974), Otto and Haller (1979), Shapiro and Crowley (1983) contend that youth achievement motivation is an important predictor of their educational and occupational achievement. This study finds that occupational achievement motivation is a strong predictor of both educational and occupational attainment (path coefficient with educational attainment = .33 with occupational attainment = .53). Otto (1977) reported that the refinement of achievement motivation is closely tied to the main work that children and adolescents do over the developmental years, mainly, schoolwork. Young people take into account their own ability when setting their aspirations (Sewell and Hauser, 1980; Otto and Haller, 1979), and family expectations are found to be an important influence as well (Leigh et al., 1986). As the path diagram shows (Fig. 2), this study finds the same causal ordering. Tables 3 and 4 show that occupational achievement motivation significantly affects educational and occupational attainment (β = .33, and

.53). Also, youth achievement motivation is affected by family background factors (β = .21), and child's characteristics (β = .15).

3. The Effect of Child's Characteristics.

Child's characteristics as measured in this study by preadolescent mental ability, self-concept, and academic motivation were not related directly to occupational attainment. However, their indirect effect measured through intervening variables of achievement motivation and educational attainment totaled .11, which exceeds the total effect exerted by youth's educational attainment (β = .09).

The path diagram (Fig. 2) shows not only the above causal relationships mediated through two intervening variables, but also its significant association with family background factors (β = .28), and significant others' (parents) influence (β = .24).

4. The Effect of Significant Other's (Parents) Influence.

The effect of parental influence is measured in this study by mother's achievement value orientation, child's perception of parental behavior, mother's child-rearing values, and mother's (educational and occupational) status projections for the child. Although this variable does not have a significant direct relationship with the youth occupational attainment, the total effect is .04. The effect is indirect, but statistically significant, mediated through educational attainment, and through its influence on shaping child's characteristics.

5. The Effect of Significant Other's (Outside Family) Influence.

The effect of outsiders' influence is measured in this study by people outside the family -- teachers, peers, relatives, counselors, priests, neighbors, and adult friends. There was no statistically significant associations found with any of the variables analyzed in the causal model.

6. The Effect of Family Background Factors.

As shown in Table 2, the effect of family background factor (measured in this study as a composite score of father or mother's occupation, father and mother's education, and mother's social participation score) on occupational attainment is only indirect, mediated through educational attainment, achievement motivation, significant other's influence, and child's characteristics. Although there is no direct relationship observed, the total effect of family background factor exceeded that of educational attainment (β = .18, as compared to β = .09 for educational attainment).

The result is not surprising in that family background is conceptualized as an exogenous variable in the causal ordering of the present model. Because of this, its influence on the occupational attainment is preceded and mediated through every other variable in the causal chain.

Summary and Conclusions/Occupational Attainment

This study confirmed the general findings of other studies that indicate the importance of the effect of home circumstances and family resources over the schooling effect (Coleman et al. 1966). The total effect of educational attainment on occupational attainment is β = .09. The total effect of the family on occupational attainment is β = .22 (The effect of parental influence plus the effect of family background factor = .04 + .18.) The effect of family influence on occupational attainment is larger than that of child's characteristics (.22 as compared to .11). Based on the findings of the study, the importance of family influence on the occupational achievement of the youth cannot be overlooked, just because it has no direct relationship to occupational attainment.

The Influence of the Family on Educational Achievement

Hypothesis I_2 is supported, based on the findings reported in Tables 4 and 5, and Figure 2. This portion of the discussion will be focused mainly on the decomposition of direct and indirect effects of selected independent variables on educational attainment of low-income and rural youth. As shown in Table 4, and Figure 2, all of the independent variables (except significant other's influence outside the family) are directly associated with youth's educational attainment. A decomposition of effects -- into direct and indirect -- is provided in Table 6. (For the regression results of educational attainment, refer to Table 4.)

Again, race and sex variables were controlled throughout the analysis. The findings indicate that the race factor has a significant effect on educational attainment while sex does not. The regression results for the race variable reported in Table 5 for educational attainment can be interpreted in the following way. The level of black educational attainment is found to be higher than that of whites among low-income, rural youth, when the level of all other variables are held constant.

The strongest, direct predictor for educational attainment is achievement motivation in post-high school years, followed by child characteristics, family background, and parent (significant other) influences, in that order. However, when the total effects are calculated -- both direct and indirect -- family background is found to have the strongest influence on youth's educational attainment. (Total effect is $\beta = .36$, as compared to $\beta = .33$ for achievement motivation.)

The influence of the family on educational attainment of youth becomes even greater when the effect of family background factor is combined with that of parental influence. The total effect of the family becomes .53, as compared to .33 of achievement motivation, and .28 of child's characteristics.

Table 6. Decomposition of Effects of Significant Predictors of Educational Attainment for Low-Income, Rural Youth

Dependent Variables	Path Coefficient (Direct)	Indirect Effects	Total Effects
Achievement Motivation ('79 occupational expectations)	.33	--	.33
Significant Other's Influence			
Parents	.10	.07 (through child's characteristics)	.17
Outsiders	N.S.	N.S.	N.S.
Child's Characteristics	.23	.05 (through achievement motivation)	.28
Family Background	.17	.07 (through achievement motivation)	.36
		.08 (through child's characteristics)	
		.04 (through significant other's-parent's-influence)	

This indicates, once again, the importance of the familial influence on youth's achievement process. Following is the summary of the effects of each predictor on youth's educational attainment.

1. The Effect of Achievement Motivation.

In this study, the youth's post-adolescent occupational expectation ($r = .6$ with occupational aspiration) is found to be the strongest predictor of youth's educational outcome. (Total effect = .33, as compared to .17 of parental influence, .28 of child's characteristics, and .36 of family's background.)

As noted before, under the discussion of the same variable for occupational attainment, many research findings indicate that youth's aspirations are important predictors of educational achievement, and their findings are confirmed by this study.

2. The Effect of Child's Characteristics.

Child's characteristics are found to be the second strongest predictor that exerts direct influence on educational attainment. However, when both direct and indirect effects are combined, the total effect of child's characteristics falls behind family background factors.

3. The Effect of Significant Other's (Parents) Influence.

Parental influence is found to have a significant, direct relationship with educational attainment of youth ($\beta = .10$). It is also found to have a significant, indirect effects on youth's educational achievement through shaping child's characteristics. (Refer to Figure 2 and Tables 4 and 6.)

The total effect of parental influence is calculated to be .17, as compared to .33 of achievement motivation, .28 of child's characteristics, and .36 of family background factors.

4. The Effect of Family Background Factors.

The effect of family background factor on educational attainment is found to be significant and direct (as well as indirect). As shown in Table 6 and Figure 2, indirect effects (through achievement motivation, child's characteristics, and parental influence) are found to be greater than the direct influence (.17 of direct, effect as compared to .19 of indirect effects).

Although its direct associations of family background factors with youth's educational attainment is not one of the strongest, the total effects mediated through such variables as child's characteristics, significant other's influence, and achievement motivation, were found to be strongest of all the independent variables tested in this study.

As was indicated in the discussion of youth occupational attainment, this finding is not surprising in that this variable is treated as an exogenous variable, whose influence precedes all other variables in the temporal dimension of the conceptual model, thus it is possible that it exerts greater influence over time in youth's life-span than some other predictors that appear later in the model.

Summary and Conclusions/Educational Attainment

The findings of this study indicate the importance of familial influence on youth's educational attainment. The magnitude of familial influence on youth's educational achievement is greater than its effect on occupational achievement (.22 of familial influence on occupational attainment, as compared to .53 of its influence on educational attainment).

Appendix A

Examples of Occupational Prestige Scores for Scientists Based on NORC Score

Occupation	Prestige Score
Physician	93
Scientist	89
Government Scientist	88
Chemist	86
Nuclear Physicist	86
Civil Engineer	84
Biologist	81

Source: Derived from Reiss, Duncan, Hatt and North, Occupations and Social Status (1961). The NORC score ranges from 96 for U.S. Supreme court justice to 33 for shoe-shiner.

Appendix B

Table 1. Indirect Effects of Selected Independent Variables on Occupational Attainment

		Indirect Effects Through						
		Child's Characteristics			Significant Other's Influence (Inside the Family			
	R^2	R^2 Change	Unstandardized Beta	Standardized Beta	R^2	R^2 Change	Unstandardized Beta	Standardized Beta
Race	.059	.059	9.89*	.23*	.004	.004	-2.88 (NS)	-.04 (NS)
Sex	.122	.063	0.35*	.25*	.0046	.0006	-.08 (NS)	-.001 (NS)
Family Background	.198	.076	.24*	.28*	.0566	.052	.30*	.24* (.24)[a]
Child's Characteristics					.1146	.058	.28*	.19* (.24)[a]
	Overall F (3,274) = 22.56 R^2 = .20(.19)				Overall F (4,273) = 8.82* R^2 = .11(.10)			

* $\alpha < .05$

NS - not significant

[a]Again, as in Table 3 and 4, the values in parentheses represents the path coefficients after removing non-significant variables from the regression equation. Overall F(1,276) = 16.97, R^2 = .06(.05) for significant other's influence.

Table 1. Indirect Effects of Selected Independent Variables on Occupational Attainment

		Indirect Effects Through						
		Child's Characteristics			Significant Other's Influence (Inside the Family)			
	R^2	R^2 Change	Unstandardized Beta	Standardized Beta	R^2	R^2 Change	Unstandardized Beta	Standardized Beta
Race	.059	.059	9.89*	.23*	.004	.004	-2.88 (NS)	-.04 (NS)
Sex	.122	.063	0.35*	.25*	.0046	.0006	-.08 (NS)	-.001 (NS)
Family Background	.198	.076	.24*	.28*	.0566	.052	.30*	.24* (.24)[a]
Child's Characteristics					.1146	.058	.28*	.19* (.24)[a]
	Overall F (3,274) = 22.56 R^2 = .20(.19)				Overall F (4,273) = 8.82* R^2 = .11(.10)			

* $\alpha < .05$

NS - not significant

[a]Again, as in Table 3 and 4, the values in parentheses represents the path coefficients after removing non-significant variables from the regression equation. Overall F(1,276) = 16.97, R^2 = .06(.05) for significant other's influence.

Table The Occupational Attainment of Presently Employed Young Adult Males

Occupational category	Black		White	
	n	%	n	%
Professional-technical (1)	4	7.0	10	9.6
Farmer-farm manager (2)	-	-	-	-
Manager, official, proprietor (3)	2	3.5	3	2.9
Clerical-sales (4)	8	14.0	10	9.6
Craftsman, foreman (5)	6	10.5	23	22.1
Operative (6)	10	17.5	18	17.3
Service, private household (7)	7	12.3	8	7.7
Farm laborer, foreman (8)	3	5.3	2	1.9
Laborer (9)	17	29.8	30	28.9
Total (161)	57		104	

Table . The Occupational Attainment of Presently Employed Young Adult Females

Occupational Category	Black females		White females	
	n	%	n	%
Professional-technical (1)	3	6.8	7	6.3
Farmer-farm manager (2)	-	-	-	-
Manager, official proprietor (3)	-	-	2	1.8
Clerical-sales (4)	16	36.6	44	39.3
Craftsman-foreman (5)	3	6.8	5	4.5
Operatives (6)	6	13.6	22	19.6
Service, private household (7)	12	27.3	11	9.8
Farm laborer, foreman (8)	-	-	1	.9
Laborer (9)	4	9.1	20	17.9
Total (156)	44		112	

Table The Occupational Attainment of Presently Employed Young Adult Males

Occupational category	Black		White	
	n	%	n	%
Professional-technical (1)	4	7.0	10	9.6
Farmer-farm manager (2)	-	-	-	-
Manager, official, proprietor (3)	2	3.5	3	2.9
Clerical-sales (4)	8	14.0	10	9.6
Craftsman, foreman (5)	6	10.5	23	22.1
Operative (6)	10	17.5	18	17.3
Service, private household (7)	7	12.3	8	7.7
Farm laborer, foreman (8)	3	5.3	2	1.9
Laborer (9)	17	29.8	30	28.9
Total (161)	57		104	

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